Office Action

Application Number: Japanese Patent Appln. Laid-open No. 10-335218
Date of Draft: April 12, 2005
Examiner of PTO: Kanehito Ohtani, 9433, 3Q00
Patent Agent: Mr. Yuzo Agata
Applied Text: Article 29, Paragraph 2

This application is rejected because of the following reasons. If your have an opinion, a written opinion may be filed within sixty days from the date of issue of the Office Action.

REASONS

The invention according to the following claims may be made easily by those skilled in the art, on the basis of the following publications distributed in Japan or in a foreign country before the application date of this application, so a patent can not be achieved under Article 29, Paragraph 2 of the Patent Law.

Note

Claims 1, 2, 4, 5, 6
Cited Documents:

1. microfilms of Japanese Utility Model Application No. 63-34841 (Japanese Utility Model Appln. Laid-open No. 1-145670)
2. Japanese Patent Appln. Laid-open No. 6-239247
3. Japanese Patent Appln. Laid-open No. 9-132153
4. Japanese Patent Appln. Laid-open No. 6-144280
5. microfilms of Japanese Utility Model Application No. 61-6442 (Japanese Utility Model Appln. Laid-open No. 62-118783)

Remarks:
Reference 1: An electrically driven power steering apparatus comprises a rack-pinion type movement conversion system for converting from a rotation of a steering wheel to an axial movement, by a meshing of a pinion and a rack shaft; and a motor for assisting a steering force on the steering wheel steered by a driver, wherein an elastic member (damper 80) is inserted in a transmission route from the pinion to an

output shaft of the motor. It should be noted that the steering apparatus is a column type power steering apparatus having a joint (intermediate shaft 7) for connecting a shaft of the steering wheel and the pinion of the rack-pinion type movement conversion system, and the motor and a reduction mechanism thereof are provided between the joint and the steering wheel. In addition, it should be noted that the elastic member is inserted into the joint mechanism (Especially, see Fig.2).

Reference 2: It should be noted that a rack-pinion type movement conversion system is a rolling one (Especially, see Fig.1).

Reference 3: It should be noted that a rack-pinion type movement conversion system is a rolling one (Especially, see Fig.1).

Reference 4: It should be noted that control means for controlling a motor on the basis of a current control value, which is calculated based upon a steering assist command value calculated with a steering torque generated on a shaft of a steering wheel in calculation means, and upon a current value of the motor; and assist calculation means for differentiating a signal of a steering torque and adding it to the steering assist command value (See "phase compensator 26" in Fig1, and a description in paragraph 0024).

Reference 5: It should be noted that an elastic member is inserted in a transmission route from an output shaft of a motor to a reduction mechanism of the motor (Especially, see Fig.2).

Claims 1, 3, 4, 6

Cited Documents:

1. microfilms of Japanese Utility Model Application No. 61-6442 (Japanese Utility Model Appln. Laid-open No. 62-118783)
2. Japanese Patent Appln. Laid-open No. 6-239247
3. Japanese Patent Appln. Laid-open No. 9-132153
4. Japanese Patent Appln. Laid-open No. 6-144280

Remarks:

Reference 1: An electrically driven power steering apparatus comprises a rack-pinion type movement conversion system for converting from a rotation of a steering wheel to an axial movement, by a meshing of a pinion and a rack shaft; and a motor for assisting a steering force on the steering wheel steered by a driver, wherein elastic members (14 and 15) are inserted in a transmission route from the pinion to an output shaft of the motor (Especially, see Fig.3). It should be noted that the steering apparatus is a pinion type power steering apparatus having a joint for connecting a

shaft of the steering wheel and the pinion of the rack-pinion type movement conversion system, and the motor and a reduction mechanism thereof are provided between the joint and the steering wheel (Especially, see Fig.1). In addition, it should be noted that the elastic members are inserted in a transmission route from an output shaft of the motor to a reduction mechanism of the motor (Especially, see Fig.3).

Reference 2: It should be noted that a rack-pinion type movement conversion system is a rolling one (Especially, see Fig.1).

Reference 3: It should be noted that a rack-pinion type movement conversion system is a rolling one (Especially, see Fig.1).

Reference 4: It should be noted that control means for controlling a motor on the basis of a current control value, which is calculated based upon a steering assist command value calculated with a steering torque generated on a shaft of a steering wheel in calculation means, and upon a current value of the motor; and assist calculation means for differentiating a signal of a steering torque and adding it to the steering assist command value (See "phase compensator 26" in Fig1, and a description in paragraph 0024).

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Record of Investigation result of Prior Art

Investigated Field: IPC Ver.7, B62D 5/04

Prior Art:

Japanese Patent Appln. Laid-open No. 61-33367

Japanese Patent Appln. Laid-open No. 9-2297

Japanese Patent Appln. Laid-open No. 8-207792

Japanese Patent Appln. Laid-open No. 7-237551

Japanese Patent Appln. Laid-open No. 7-215227

Japanese Patent Appln. Laid-open No. 7-232653

The record of investigation result of prior art may not be a part of the reason of rejection.

If you have any questions, please communicate with the examiner.